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Indigenous employment and job segregation in the Northern Territory labour market

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ABSTRACT

Implicit in the aims of the Aboriginal Employment Development Policy (AEDP) and the Native Title Social Justice measures is a need to upgrade the occupational status of indigenous workers and increase their spread across the range of industries. This need is acutely felt in the Northern Territory where indigenous workers are disadvantaged by low occupational status and over-concentration in a few industries. Despite several years of policy implementation, there is little sign of economic convergence between indigenous workers and others. This paper measures the difference in employment change between indigenous and non-indigenous workers between 1986 and 1991 and outlines the likely causes of increased job segregation. By calculating indexes of industry and occupational segregation, it also determines the precise composition of indigenous employment in the Northern Territory and examines the reasons why duality persists as a distinguishing feature of the regional labour market. A downward revision of official figures on indigenous employment in the private sector completes the analysis. While the prospects for reducing duality in the labour market appear gloomy, scope for improvement exists within existing policies and programs and official data may actually mask diversity in indigenous employment.

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An analysis of regional change in the economic status of indigenous Australians between 1986 and 1991 revealed that those resident in the Northern Territory fared increasingly worse over this period compared to their counterparts in all other States and Territories in terms of employment and income status (Taylor 1993a). At one level, this result should be surprising given the relatively buoyant nature, in national terms, of the Northern Territory labour market and that collective levels of employment and income recorded for the Territory's total population are consistently among the highest in the nation and second only to that experienced by residents of the Australian Capital Territory.

Aside from low labour force participation rates and high welfare dependence, this laggard economic performance for indigenous people in the Northern Territory derives from relatively poor occupational status and over-concentration in few industries, mostly in the government sector as broadly defined. Ultimately, this segmentation in the labour market is reflected in an average level of employment income which is fully one half that of other residents (Taylor 1994a). In terms of the government's goal of statistical equality with other Australians, as articulated in the Aboriginal Employment Development Policy (AEDP), the situation in the Northern Territory represents the worst possible scenario: several years after policy implementation, no sign of economic convergence with duality in the labour market seemingly entrenched.

Given the direct links that exist between occupational and economic status (Jones 1989), the income equality goal of the AEDP carries an unspecified, yet crucial, commitment towards altering the occupational structure of the indigenous workforce so that it more closely parallels that of the general workforce. Accordingly, this thrust is implicit in much of the AEDP which lays heavy emphasis on formal training and skill improvement programs in both public and private sectors, as well as affirmative action to enhance the representation of indigenous people in executive positions. Other facets of the AEDP, such as the private sector and various industry strategies, also implicitly seek an increase in the industry spread of employment away from dependence on activities aimed solely at servicing the indigenous population. This goal is more explicitly stated in recommendations 100-102 and 113 on indigenous economic development contained in the Aboriginal and Torres Strait Islander Commission (ATSIC) report to government on Native Title Social Justice measures (ATSIC 1995: 140-43). Running counter to these policy aims, however, is an expansion of the Community Development Employment Projects (CDEP) scheme.[1] This component of the AEDP has the effect of increasing indigenous workforce participation, particularly in rural areas, but generally in unskilled occupations and primarily in community service industries (Altman and Daly 1992). The net balance of employment outcomes emanating from these two components of the AEDP would thus appear crucial in changing the nature of indigenous involvement in the labour market.

At the national level, just over half of indigenous employment growth between the implementation of the AEDP in 1986 and the 1991 Census is estimated to have been generated by the CDEP scheme (Taylor 1993b: 33-7). One effect of this was to slightly increase the industry segregation of indigenous workers but marginally reduce their degree of occupational segregation (Taylor 1993b: 24-30). In this context, the Northern Territory experience appears exceptional given that net employment growth for indigenous people between 1986 and 1991 can be attributed to increased participation in the CDEP scheme (Taylor 1994a: 12). Furthermore, it is expected that this led to markedly increased job segregation. Using data on industry and occupation of employment from the 1986 and 1991 Censuses, one purpose of this paper is to test this proposition. A further, related, aim is to determine the precise composition of indigenous employment in the Northern Territory and measure the extent to which duality persists as a distinguishing feature of the regional labour market. This is done by calculating indexes of industry and occupational segregation as well as revising official data on indigenous employment in the private sector.

Industry segregation[2]

Change in inter-industry segregation, 1986-91

Differentials in the percentages of indigenous and non-indigenous workers employed in each industry division in 1986 and 1991 are shown in Table 1, with minus signs indicating that the indigenous proportion was greater. In 1986, for example, 9.2 per cent of indigenous workers were employed in agricultural industries compared to only 3.3 per cent of all other workers. Subtracting the indigenous proportion from that of other workers produces a differential in the proportions of -5.9. In other words, the proportion of indigenous employees engaged in agricultural industries in 1986 was greater than the proportion of all other workers in the same industry division by 5.9 percentage points. By 1991, the gap between the two proportions had narrowed substantially to a position of virtual parity with indigenous employment in the industry ahead by only 0.4 percentage points.

Table 1 also reveals consistently low differentials in the representation of indigenous workers compared to that of other workers in most industries, the major exception being community service industries and, to a lesser extent, wholesale and retail industries. In these, and in other industries with relatively high differentials, such as finance and personal services, the gap between indigenous and non-indigenous representation widened between 1986 and 1991 leading to an overall increase in the index of dissimilarity from 32.5 to 39.2. As a consequence, to have achieved equality in the distribution of employment across the broad industry divisions in 1991, almost 40 per cent of indigenous workers would theoretically need to have been in different industry categories with far less reliance on community service industries. Similar equalisation would have emerged, of course, if

substantially higher representation in community service industries had been evident among the non-indigenous workforce. The data also indicate that this trend held for both male and female workers with males continuing to experience the highest degree of industry segregation.

Table 1. Differentials in employment distribution between indigenous and non-indigenous employees by industry division: Northern Territory, 1991.

Industry division[a]	Difference in per cent employed 1986	1991
Agriculture	-5.9	-0.4
Mining	3.9	3.2
Manufacturing	1.9	3.7
Electricity, water and gas	0.3	0.8
Construction	4.6	3.4
Wholesale and retail trade	8.8	9.7
Transport	3.2	4.1
Communication	1.7	1.1
Finance, property and business services	5.3	6.6
Public administration and defence	0.3	-3.6
Community services	-26.8	-35.1
Recreational and personal services	2.6	6.2
Index of dissimilarity		
Males	36.5	42.9
Females	28.8	34.8
Total	32.5	39.2

a. Excludes those inadequately described or not stated.

Source: 1986 and 1991 Censuses of Population and Housing.

This increased dichotomy in the Northern Territory labour market was due to the growth of employment in the CDEP scheme. Without new jobs created by the scheme, mostly in community service industries, the level of indigenous employment in the Northern Territory would have declined by 12 per cent between 1986 and 1991 (Taylor 1994a: 12). In 1986, the CDEP scheme operated in only four Northern Territory communities with a total of 720 participants. At the time of the 1991 Census, 24 communities were participating in the scheme with a total of 4,146 participants. As a consequence, in 1991, 36 per cent of all indigenous people employed were participants in the scheme. Since then, the scheme has continued to expand and at the end of 1994 a total of 44 communities were engaged with 6,000 participants. Thus, in the Northern Territory, a major effect of the AEDP after several years of implementation has been to reinforce a distinctly indigenous segment in the regional labour market. The remainder of this paper is devoted to detailing the characteristics of this indigenous labour

market and measuring the degree to which it is segregated from the mainstream.

Intra-industry segregation, 1991

In order to derive a more precise assessment of industry segregation between indigenous and non-indigenous workers, detailed industry class tables for each group were obtained using the full Australian Standard Industrial Classification (ASIC).[3] Using these fine-grained data an index of dissimilarity was calculated for each industry division and the results are presented in Table 2. In interpreting these indexes it is important to note that their comparability across ASIC divisions is reduced somewhat, owing to the tendency of the index to increase with the detail of the classification (Karmel and Maclachlan 1988). To assist in their usage, the number of classes in each major industry division is also indicated.

Table 2. Index of dissimilarity by industry division: Northern Territory, 1991.

Industry division	Index of dissimilarity	Industry classes
Agriculture	40.9	42
Mining	42.3	32
Manufacturing	57.1	221
Electricity, water and gas	36.2	7
Construction	38.1	25
Wholesale and retail trade	43.5	95
Transport	32.8	41
Finance, property and business services	47.8	51
Public administration and defence	49.8	9
Community services	61.3	51
Recreational and personal services	41.7	37
Total		612

Source: 1991 Census of Population and Housing.

Clearly a significant degree of employment concentration occurred within all industry divisions and community services and manufacturing stood out as having particularly high segregation.[4] One factor partly contributing to this was the relatively small size of the indigenous workforce which served to lower the chances of indigenous representation across all industry classes. The practical implications of this are indicated in Table 3 which shows the percentage of individual industry classes in each industry division that had no indigenous workers compared to the equivalent distribution for non-indigenous workers. Overall, indigenous workers in the Northern Territory were absent from more than two-thirds of the 612 possible industry classes compared to a non-representation rate of only 25

per cent for non-indigenous workers. Considerable variation was apparent, however, between industry divisions. For example, indigenous people were absent from more than two-thirds (69.9 per cent) of the 42 agricultural industries compared to an absence of less than one-third from the 52 community service industries. The most striking contrast with non-indigenous workers was evident across the 95 wholesale and retail industries, two-thirds of which had no indigenous workers compared to less than 10 per cent for non-indigenous workers.

Table 3. Percentage of industry classes with no indigenous and non-indigenous employment by ASIC division: Northern Territory, 1991.

Industry division	Indigenous	Non-indigenous	Industry classes
Agriculture	69.9	19.1	42
Mining	75.3	41.2	32
Manufacturing	88.1	44.3	221
Electricity, water and gas	57.2	43.0	7
Construction	28.1	4.5	25
Wholesale and retail trade	64.5	7.2	95
Transport	54.8	12.3	41
Finance, property and business services	78.8	25.8	51
Public administration and defence	22.0	0.0	9
Community services	29.3	9.8	52
Recreational and personal services	46.7	14.0	37
All industries	67.9	25.9	612

Source: 1991 Census of Population and Housing.

A nominal measure of the particular industry concentrations responsible for high employment segregation can be established by simply ranking the top ten industry classes of employment. This is done in Table 4 which reveals far greater concentrations of indigenous employment in a few industry categories. As much as two-thirds of all indigenous employment was accounted for by the top ten employing industries compared to only 25 per cent of non-indigenous employment. While some of the main employing industries were common to both groups, though in somewhat different rank order, others were quite different. Thus, government administration, primary schools, grocers and accommodation are found in both listings, although the nature of employment in these industries was likely to have varied qualitatively. For example, the employment of indigenous people in the accommodation industry reflected, to some degree, the activities of Aboriginal Hostels Ltd, while jobs in the grocery industry were no doubt associated with the operation of community stores. By contrast, such employment among non-indigenous workers was more likely to stem from jobs in private sector hotels and retail outlets. The relative importance of

the pastoral industry for indigenous employment also emerges from these data, while other major sources of regional employment, such as defence, hospitals, take-away food shops and motor vehicle dealers, clearly held less significance for indigenous workers.

Table 4. Rank order of top ten industry classes by indigenous and non-indigenous employment: Northern Territory, 1991.

Indigenous	Non-indigenous
Community organisations n.e.c.[a]	State government administration
Local government administration	Defence
Community services undefined	Accommodation
State government administration	Grocers
Federal government administration	Hospital
Primary schools	Federal government administration
Grocers	Primary schools
Meat cattle	Take-away food shops
School education undefined	Communication
Accommodation	Motor vehicle dealers
Per cent of total employment	Per cent of total employment
66.8	25.8

a. Not elsewhere classified.

Source: 1991 Census of Population and Housing.

More precise measurement of industry concentration is enabled by isolating specific industry classes in which indigenous workers are over- and under-represented to a greater degree than average variations.[5] These statistical outliers are shown in Table 5 which highlights the separation of indigenous and non-indigenous economic activity in the Northern Territory and clearly delineates the industrial composition of the indigenous, as opposed to the mainstream, labour market.

As observed at the national level (Taylor 1993c), industries in the Northern Territory which had an over-representation of indigenous workers were found predominantly within the public sector domain and funded either directly by government or via a community organisation. Conversely, evidence of under-employment was apparent in industries more associated with the private sector such as the agriculture industry, finance and business service industry, specialised areas of the construction industry, road transport and large and small retail operations. Lack of representation in important government-based industries also emerges particularly in education, health, State (Territory) government and defence.

Table 5. Over- and under-representation of indigenous employees by selected industry division: Northern Territory, 1991.[a]

Over-represented	Under-represented
Agriculture, forestry, fishing Meat cattle	Agriculture, forestry, fishing Agriculture undefined, orchards, vegetables, nurseries, prawns
Community services Community organisations n.e.c.[b]	Community services Hospitals, medicine, primary schools, secondary schools, computing, accountants, lawyers, universities, police welfare and charitable services
Construction House construction, non-residential building construction	Construction Plumbing, electrical work
Finance, property and business services Legal services, cleaning services	Finance, property and business services Trading banks, banking undefined, residential property operators, accounting services, surveying services, data processing services, technical services n.e.c.
Manufacturing Printing and bookbinding	Manufacturing Meat, smallgoods, bread, alumina, wood structural fittings, fabricated steel, printing and publishing, furniture, signs and advertising displays
Public administration and defence Local government	Public administration and defence State government, defence
Recreation and personal services Parks and gardens, accommodation	Recreation and personal services Gambling services, restaurants, hotels, cafes
Transport Travel agency services	Transport Road freight, taxi, domestic air transport, motor vehicle hire
Wholesale and retail trade Grocers, general stores	Wholesale and retail trade Department stores, women's stores, service stations, smash repairs, take-away food, pharmacies, household appliance stores, motor vehicle dealers

a. Above or below average percentage differentials.
b. Not elsewhere classified.

Source: 1991 Census of Population and Housing.

Industry segregation by section-of-State

Notwithstanding human capital constraints, a key determinant of the nature and level of indigenous employment observed in the Northern Territory

was location. This reflects the fact that the majority of indigenous people are not resident in places where the greatest number and range of jobs are found, nor are they predisposed to changing residential location to overcome this mismatch (Taylor 1989).

Table 6. Settlement size distribution of indigenous and non-indigenous populations: Northern Territory, 1991.

Settlement size	Number of localities	Indigenous Population	Indigenous Per cent	Non-indigenous Population	Non-indigenous Per cent
More than 50,000	1	6,179	15.5	72,222	53.1
20-24,999	1	3,708	9.3	21,877	16.1
5-19,999	1	1,478	3.7	7,894	5.8
1-4,000	8	4,485	11.2	8,922	6.6
200-999	27	10,475	26.2	3,262	2.4
Less than 200	450[a]	13,589	34.0	21,800	16.0

a. This is an approximation, as the actual number of small settlements is disputed. For a discussion of this issue see Taylor 1993d.

Source: 1991 Census of Population and Housing.

Table 7. Industry index of dissimilarity by section-of-State: Northern Territory, 1991.

	Urban	Rural localities	Rural balance	Total
Males	10.0	36.1	53.9	42.1
Females	24.9	24.9	42.9	34.4

Source: 1991 Census of Population and Housing.

Despite its rural and frontier image, three-quarters of all jobs in the Northern Territory are located in urban areas (Taylor 1994a: 12). At the same time, almost two-thirds of the indigenous population is found in rural areas. Furthermore, Table 6 reveals the nature of this rural settlement to be in numerous, small-scale and widely dispersed localities. This serves to diminish economies of scale and limits the development of market thresholds for job creation, except perhaps, in rural service centres. The main employment policy response in this context of seemingly limited options has been to facilitate expansion of the CDEP scheme. Not surprisingly, this is reflected in much higher industry segregation in rural areas, particularly among males, due to an over-concentration of employment in community service industries (Table 7). Interestingly,

however, high rural segregation indexes also reflect the fact that non-indigenous employment in such areas is far less dependent on community service industries. Indeed, nearly 11,000 non-indigenous workers were employed in industries other than community services in rural parts of the Northern Territory, notably in mining, wholesaling and retailing, the construction industry and in recreational and personal service industries. Clearly, diversity of employment opportunity does exist in rural areas, it is simply segmented.

Caveats

One drawback in relation to the use of these industry profiles is the absence of data that reflect the involvement of indigenous people in economic activities that the census methodology is ill-equipped to record. Two examples are of relevance here, although they overlap to some degree: information on participation in the arts and cultural industry and details of the specific activities undertaken under the umbrella of the CDEP scheme. Turning to the arts and cultural industry first, in the 1991 Census only 73 indigenous people were identified as employed in this industry in the Northern Territory, a figure which contrasts emphatically with a conservative estimate of 2,504 practising indigenous artists in the Northern Territory identified by the review of the Aboriginal arts and crafts industry in 1988 (Altman 1989: 34). This discrepancy no doubt derives from the fact that the census records as employment the main job engaged in during the week prior to enumeration. Given the sporadic nature of involvement of many indigenous people in the arts and cultural industry (ATSIC 1994: 69), it is more likely that work other than arts and crafts would be registered. Clearly, though, industry participation on the scale suggested by the Altman report would have some potential to alter descriptions of the indigenous labour market derived from census data, although to precisely what degree is speculative. If indigenous participation in such activities were adequately quantified this would no doubt increase the numbers employed in the recreation and personal service industry. Whether this would alter the degree of industry segregation, however, is a moot point. In 1991, the Census also recorded only 466 non-indigenous participants in the arts and cultural industry in the Northern Territory. This suggests that inadequate enumeration of such economic activity may not be restricted to the indigenous population.

Further interpretive issues regarding industry data derive from the practise in census enumeration of coding participants in CDEP schemes as employed in local government or community service industries. This reflects the ASIC convention of classifying, in all instances, industry of employment according to the main economic activity undertaken by the employer (Australian Bureau of Statistics (ABS) 1985). Thus, if an individual indicates that they work for a community council, then their industry of employment will be coded as local government or community services although they may actually be engaged in running a community

store or in screen printing and be, therefore, in essence, part of the retail or manufacturing industries. The likelihood of a community organisation appearing on census forms as the employer would appear to be greater among the indigenous population, given the relatively simple economic structure of many indigenous localities with most work establishments owned and operated by community organisations. It is not surprising, then to find that growth of employment in local government and community service industries has been largely responsible for increased industry segregation, particularly in rural areas.

Table 8. Employment in CDEP scheme activities by sample communities: Northern Territory, December 1994.

Activity	Number of participants	Per cent of total
Arts and crafts	132	6.5
Agriculture	238	11.7
Tourism	40	2.0
Community maintenance	677	33.2
Selling goods and trade	25	1.2
Broadcasting	19	0.9
Women's resource centre	235	11.5
Child care	135	6.6
Aged care	12	0.6
Building and construction	250	12.3
Sport and recreation	100	4.9
Traditional/cultural	90	4.4
Mechanical	35	1.7
Health work	31	1.5
Education	17	1.0
Total	2,036	100.0

Source: Form CDEP8A, ATSIC Central Office, Canberra.

It would appear, however, that official data have some potential to mask industrial diversity. While this is applicable to the whole population, the contention here is that the greatest potential exists in regard to indigenous employment. Some measure of this is provided by data from the ATSIC census of CDEP scheme activities for a sample of communities in the Northern Territory covering approximately one-third of scheme participants at the end of 1994. This indicates that a wide range of activities were supported by the scheme and that only half of the sample participants (54 per cent) were employed in activities that unequivocally related to the provision of community services. The remainder were engaged in activities more closely associated with other industries, particularly construction, agriculture and recreation and personal service industries (Table 8). The spread of employment revealed by these data is also consistent with findings of the 1992 review of the CDEP scheme

which recorded a similar range of activities, although with no indication of the numbers involved in each (Deloitte Touche Tohmatsu 1993: 52-3). Whatever the relativities of such latent activity may be concerning the rest of the population, the issue here is that indigenous workers are engaged in a wider range of industrial tasks than is readily apparent from census data and this needs to be acknowledged by policy makers, particularly in planning training programs.

Occupational segregation

Change in occupational segregation, 1986-91

Differentials in the percentages of indigenous and non-indigenous workers employed in each occupational group in 1986 and 1991 are shown in Table 9. For the most part, variation between the two groups in the occupational share of employment has remained low, except at both ends of the occupational range. For example, the notably higher proportion of non-indigenous workers employed in managerial and administrative jobs in 1986 increased slightly, while at the lower end of the occupational scale the substantial over-concentration of indigenous jobs in labouring occupations was also enhanced. Overall, the effect on the index of dissimilarity was minimal with occupational segregation steady in the moderate range requiring a shift in occupation of around one-fifth of workers to achieve parity in the distributions. Also unchanged was the higher occupational segregation of males with the employment distribution of indigenous females more closely resembling that of their non-indigenous counterparts.

Table 9. Differentials in employment distribution between indigenous and non-indigenous employees by occupational major group: Northern Territory, 1991.

Occupational major group[a]	Difference in per cent employed 1986	1991
Managers and administrators	6.6	8.1
Professionals	5.7	5.0
Para-professionals	2.3	-1.3
Tradespersons	3.9	3.0
Clerks	-2.5	1.1
Sales and personal service workers	4.0	3.9
Plant and machine operators and drivers	-0.7	0.6
Labourers	-19.5	-21.2
Index of dissimilarity		
Males	26.7	27.7
Females	16.1	17.2
Total	22.5	21.8

a. Excludes those inadequately described or not stated.

Source: 1991 Census of Population and Housing.

Intra-occupational segregation

A more precise measure of occupational segregation is provided by details of employment distribution by occupational unit groups using the full Australian Standard Classification of Occupations (ASCO) (Table 10).[6] It is clear that a high degree of segregation occurred within most occupational groups, and there also seems to have been some tendency for this to increase with the level of skill implied by the ASCO classification. Thus, the greatest segregation was apparent in professional, para-professional and trade occupations, although less segregation was recorded for managerial and administrative occupations. Against this trend, indigenous workers in labouring occupations had higher than expected segregation. This was due to their over-concentration in general labouring jobs and relative absence from a range of industry-specific labouring jobs such as trades assistants, factory hands, deckhands, mining labourers, storage labourers, freight handlers, and kitchenhands.

Table 10. Index of dissimilarity by occupational group: Northern Territory, 1991.

Occupational group	Index of dissimilarity	Occupational units
Managers and administrators	31.6	21
Professionals	49.6	62
Para-professionals	61.2	22
Tradespersons	41.5	60
Clerks	28.6	23
Sales, personal service workers	38.1	20
Plant, machine operators and drivers	24.1	40
Labourers and related workers	40.5	34

Source: 1991 Census of Population and Housing.

The question of underenumerated indigenous art and craft workers arises again in the consideration of occupational profiles. If census data were available to incorporate this group in the calculation of dissimilarity, the effect would probably have been to reduce the degree of segregation in professional occupations, although to what degree remains unknown. This is because of the relatively large proportion of indigenous people engaged in artistic pursuits, one in seven of the working-age population according to Altman (1989: 34), which, in all probability, would have been far higher than the equivalent figure for the rest of the population. At the same time, it must be remembered that for most of these individuals, artistic production was a sporadic activity and the vast majority of art producers received an income from sales of less than $1,000 in 1988 (Altman 1989: 36).

Also hidden at the broad occupational group level was the large proportion of occupational units with no indigenous employees. The Territory's non-indigenous workforce, for example, was employed in 252 of the 282 ASCO occupational units, whereas indigenous workers were represented in only 152 of these. As Table 11 shows, with the exception of clerical and labouring occupations, the extent of this under-representation in each occupational group was consistently high while the lack of representation compared to non-indigenous workers was quite striking in certain occupational groups, particularly those with a large range of job categories such as professionals, tradespersons and plant and machine operators.

Table 11. Percentage of occupational unit groups with no indigenous and non-indigenous employment by ASCO major group: Northern Territory, 1991.

Occupational group	Indigenous	Non-indigenous	Occupational units
Managers and administrators	54.2	14.3	21
Professionals	54.1	4.8	62
Para-professionals	55.7	7.5	22
Tradespersons	50.1	10.2	60
Clerks	26.0	16.1	23
Sales and personal service workers	41.2	4.5	20
Plant, machine operators and drivers	60.8	13.2	40
Labourers and related workers	15.2	3.3	34
All occupations	46.2	8.7	282

Source: 1991 Census of Population and Housing.

Once again, a nominal measure of the particular employment concentrations responsible for producing high intra-occupational segregation indexes can be established by ranking the top ten occupational units of employment (Table 12). Using the numbers employed in each ASCO unit as a basis for ranking, almost half of all indigenous employment was accounted for by the top ten out of 282 occupations while the equivalent figure for the rest of the workforce was one-quarter. Skewness in occupational distribution was thus not confined to indigenous workers, although the extent of this was quite different as were the main occupations of employment. Of the top ten occupations by employment, only clerks, cleaners and sales assistants were common to both groups. Furthermore, sales assistants were ranked first for non-indigenous workers but last for indigenous workers. Also noticeable is the absence in this listing of indigenous workers from some of the major employing occupations in the regional economy such as accounting clerks, registered

nurses, receptionists, office secretaries, truck drivers and vehicle mechanics.

Table 12. Rank order of top ten occupational units by indigenous and non-indigenous employment: Northern Territory, 1991.

Indigenous	Non-indigenous
Cleaners	Sales assistants
Welfare para-professionals	Accounting clerks
Labourers n.f.d.[a]	Cleaners
Farm hands and assistants	Clerks n.f.d.
Gardeners	Registered nurses
Clerks n.f.d.	Receptionists and information clerks
Enrolled nurses	Office secretaries
Teachers aides	Managers and administrators
Construction and mining labourers	Truck drivers
Sales assistants	Vehicle mechanics
Per cent of total employment	Per cent of total employment
45.7	25.3

a. Not further defined.

Source: 1991 Census of Population and Housing.

As with the industry data, a more precise measurement of industry concentration is provided by isolating specific occupational units in which indigenous workers were over- and under-represented to a greater degree than average. This produces an occupational profile of the indigenous labour market which is quite distinct from that of the mainstream. It also specifies the particular niche occupations for indigenous people in the Northern Territory (Table 13). In virtually all the occupational groups, many of the activities favouring indigenous workers were tied in some way to providing special services for the indigenous population. Thus, it was as special education teachers and teachers' aides, rather than mainstream primary and secondary teachers, that indigenous people were over-represented; likewise as enrolled nurses, rather than registered nurses, or as accommodation managers, rather than sales managers. More telling, perhaps, were the occupations where under-representation was evident. Apart from being relatively numerous and diverse in nature, many of these were private sector and urban in orientation and they generally implied higher skill and training prerequisites. Typical of this contrast among trade occupations, for example, was the over-representation of indigenous workers as gardeners and their under-representation as aircraft maintenance engineers.

Table 13. Over- and under-representation of indigenous employees by occupational unit group.[a]

Over-represented	Under-represented
Managers and administrators General managers, accommodation and tavern managers, other managing supervisors	Managers and administrators Finance managers, sales managers, production managers, managers and administrators n.f.d.
Professionals School teachers n.f.d.,[b] special education teachers, other business professionals	Professionals Electrical engineers, civil engineers, medical practitioners, primary teachers, accountants, lawyers, computing professionals, secondary teachers, university teachers
Para-professionals Welfare para-professionals	Para-professionals Electrical technicians, science technical officers, registered nurses
Tradespersons Gardeners, screen printers, craft workers	Tradespersons Electrical mechanics, aircraft maintenance engineers, metal fitters, communications trades, carpenters and joiners, hairdressers, computer servicing, cooks, welders
Clerks Clerks n.f.d., teachers aides	Clerks Office secretaries, accounting clerks, purchasing clerks, receptionists
Salespersons and personal service workers Child care, refuge and related workers enrolled nurses	Salespersons and personal service workers Sales assistants, sales representatives, bar attendants, waiters and waitresses
Plant and machine operators, and drivers Excavating and earth moving operators, truck drivers, agricultural	Plant and machine operators, and drivers Drilling plant operators, bus drivers, petroleum and gas plant operators, fork lift drivers
Labourers and related workers Labourers n.f.d., farm hands and assistants, cleaners, garbage collectors	Labourers and related workers Storemen, guards and security officers, kitchenhands, deckhands, mining labourers, luggage porters

a. Above or below average percentage differentials.
b. Not further defined.

Source: 1991 Census of Population and Housing.

Occupational segregation by section-of-State

The importance of location as a determinant of job segregation emerges again regarding occupation of employment, although marked gender variation is also evident (Table 14). In urban areas, the occupational

distribution of indigenous females was very similar to that of other female workers, while only moderate occupational separation was recorded in rural areas. However, it is likely that the segregation of female workers was higher at the intra-occupational level and that seniority levels within occupations were also likely to favour non-indigenous females. This is consistent with observations made at the national level (Taylor 1994b). In contrast to the situation among female workers, marked segregation was characteristic of the male workforce, even in urban areas, while male workers in rural areas were engaged in quite separate occupations reflecting the far greater reliance of indigenous males on labouring jobs, particularly via the CDEP scheme.

Table 14. Occupational index of dissimilarity by section-of-State: Northern Territory, 1991.

	Urban	Rural localities	Rural balance	Total
Males	40.8	68.8	72.6	55.2
Females	12.8	29.3	25.7	17.1

Source: 1991 Census of Population and Housing.

Industry sector segregation

A growing policy concern, expressed in the recent review of the AEDP, is that indigenous people are increasingly reliant on employment that is dependent for its continuation on special government support, and that this is hidden to a large extent in official statistics (Bamblett 1994: 25). In the 1986 Census, employment provided via indigenous community organisations and the CDEP scheme was generally classified as private sector employment on the premise that such employers were not government bodies. They were, however, publicly funded. In recognition of this, coding procedures were changed in the 1991 Census to classify such employment under local government in cases where community organisations were clearly stated as the employer and could be matched with the ABS Business Directory. Failing this, a private sector designation was applied. As a consequence of this rule change, local government employment in the Northern Territory increased from 216 in 1986 to 1,188 in 1991, but the greatest number of employees remained in the private sector which increased from 2,749 to 3,571. Thus, in 1991, 56 per cent of indigenous workers were classified by the Census as employed in the private sector, which was not far behind the figure of 67 per cent for the remainder of the workforce.

Given the ABS coding procedures, it remains unknown what proportion of this private sector employment actually involved work for publicly funded organisations. In a paper aimed at calculating 'real' private sector involvement nationally, Altman and Taylor (1995) defined such employment as a residual after accounting for jobs in the officially defined government sector plus those in statutory authorities, quangos and other government-funded bodies. Data for this revised public sector/private sector distinction were constructed, with discretionary assumptions about the public funding of certain industries, from tables showing private sector employment by detailed industry class.[7] This same revision is applied to Northern Territory data in Table 15 and the result is to substantially reduce the private sector share of indigenous employment from 56 per cent to only 25 per cent. While some reduction in private sector employment also results for the rest of the workforce, this is relatively slight resulting in a marked contrast in the industry sector profiles of the two population groups.

Admittedly, a good deal of non-indigenous private sector activity in the Northern Territory is dependent ultimately on government expenditure through tendering processes and the regional income flow generated by welfare payments and expenditure on indigenous programs (Drakakis-Smith 1980: 438-42; Crough 1993: 48-9). However, employment generated in this way is difficult to estimate and, in any case, is qualitatively different from the employment for indigenous people referred to above, being more elastic and subject to open competition. At the same time, it could be argued that the reliance of indigenous people on government sector employment is simply an extreme example of a growing structural trend observed generally in remote Australia (Holmes 1988).

Table 15. Calculation of indigenous and non-indigenous employment in government and private sectors: Northern Territory, 1991.

	Government sector		Private sector	
	Number	Per cent	Number	Per cent
Indigenous population				
Census figure	2,785	43.8[a]	3,572	56.2
Industry revision	4,715	74.1	1,642	25.9
Non-indigenous population				
Census figure	20,837	32.9	42,441	67.1
Industry revision	24,491	38.7	38,787	61.3

a. Excluding not stateds.

Source: 1991 Census of Population and Housing.

Policy implications

Prospects for employment growth generally in the Northern Territory appear encouraging. A number of recent economic surveys have emphasised the region's comparative advantage in a range of expanding industries, including tourism and the export of services, as well as highlighting the ongoing expansion of defence infrastructure, the potential for some manufacturing growth and further mineral exploitation, notably offshore (Harris 1992; Kelty 1993: 126-33). It is expected that the Darwin Committee, established by the Commonwealth to report in 1995 on the development of Darwin as a 'Gateway to Asia', will confirm this buoyancy in the regional labour market. From the foregoing analysis, however, the opportunities for indigenous employment growth would appear to coincide only marginally with those anticipated for the mainstream. Given the degree of labour market segregation evident in the Northern Territory, what then is the prospect that indigenous people will share in regional employment growth? The answer to this appears unequivocally negative, although some scope for a broader employment base exists and clearly much depends on drastically improving outcomes from policies already in place.

To date, the main mechanisms for securing indigenous employment in the mainstream labour market have been the private and public sector strategies of the AEDP, applied most prominently in urban contexts. These now combine with the case management and the job guarantee initiatives announced as part of the government's white paper on employment, *Working Nation* (Commonwealth of Australia 1994). While it remains to be seen how effective these new measures will be, a major problem to date with labour market programs has been the lack of observable job growth despite substantial numbers of program participants (Taylor 1994a). One explanation offered for this has been that many program placements have not represented 'new' entrants to 'new' jobs, but simply the same individuals recycled several times through a constant, or even declining, pool of positions (Johnston 1991: 73; Smith 1994: 12). Another factor has been the short duration of job subsidies and program support combined with the high attrition rates among program participants.

Clearly, one measure of success of the *Working Nation* initiatives would be to ensure sustained program participation together with outcomes that lead to actual growth in employment. In pursuit of this, recommendation 107 of the Native Title Social Justice measures calls for the introduction of explicit accountability measures to ensure access and equity (ATSIC 1995: 142). Given the diversity of regional economic circumstances, both among indigenous people (Taylor 1993a) and in the mainstream labour market (McDonald 1995), the establishment of such measures is appropriate to the brief of the Department of Employment, Education and Training (DEET) Area Consultative Committees announced as part of the *Working Nation*

package whose role includes responsibility for regional coordination of indigenous labour market programs (Commonwealth of Australia 1994: 133-4).

An immediate handicap to improving program outcomes, however, is the limited skill base of many indigenous job-seekers as this may affect the level of demand for their labour, particularly in urban contexts. One of the critical findings of the McKinsey Report on business investment in regional Australia, for example, was that employers were generally sceptical of job subsidies, placing emphasis instead on access to skilled workers (McKinsey and Company 1994: 32). Not surprisingly, the census data reveal that industries under-employing indigenous workers appear to share high human capital requirements, such as medicine, education, accounting and various trades-based industries. Equally, however, there are many examples of other major employers, such as shops, cafes and restaurants, stores and banks, where this is less so and where factors such as discrimination or cultural choice may be more responsible. Whatever the case, the labour market is increasingly dynamic and is projected to become more skilled at the expense of jobs at the lower end of the ASCO scale (DEET 1991). Consequently, indigenous workers in the Northern Territory appear overly-concentrated in occupations that are set for relative decline. To ensure that such job seekers are not left behind in a changing labour market there is need for regional estimation of likely areas of employment growth (and decline) and an attempt to focus training and work experience towards matching supply with anticipated demand. One starting point in such an exercise would be to scrutinise the nature of job growth envisaged by the forthcoming recommendations of the Darwin Committee and determine what implications these may have for indigenous employment and training.

Clearly, away from the urban areas of the Northern Territory, the CDEP scheme operates as a crucial labour market program and will continue to do so, notwithstanding well documented imperfections (Altman and Sanders 1991; Sanders 1993). While this will ensure a steady increase in numbers registered as employed, the nature of CDEP scheme work as predominantly part-time with wages linked to social security entitlements means that the allied task of the AEDP of raising income levels and reducing reliance on government spending will remain unresolved. Nor is any movement to this end in sight. A number of communities in the Northern Territory have participated in the scheme for almost 20 years and there are few examples of movement away from this arrangement towards more mainstream employment.

While this will entrench segregation by industry sector, it would appear that CDEP schemes do offer a variety of forms of employment across a wider range of industrial activities, and possibly occupations, than official data suggest. To date, the conclusion drawn from census data is that CDEP

schemes increasingly segregate indigenous workers amorphously into community service industries. If a broader spectrum of industrial activity is being created, leading to lower implied segregation, then this has repercussions for policy. There is an urgent need for ATSIC to determine the precise nature of all CDEP scheme work with a view to establishing what accredited skills training may be appropriate and what, if any, links could be established with allied mainstream industry training and employment. The obvious means of achieving this would be to make it compulsory for precise information on work activities to be gathered as part of the existing ATSIC Census of CDEP schemes.

At present, training opportunities offered to CDEP scheme participants are relatively ad hoc and unstructured (Deloitte Touche Tohmatsu 1993: 150). Recommendations 15 and 16 of the Review of the AEDP respond to this by laying stress on the contracting of CDEP scheme labour to provide the full range of municipal services and part of this commitment involves the proper training of workers to adequately adopt this role (Bamblett 1994: xix). Scope for broader and more coordinated involvement of CDEP schemes in regional economic activity is also implied in recommendation 56 which seeks a whole of government approach to the delivery of AEDP programs and services (Bamblett 1994: xxv). The need to strengthen community involvement in work on indigenous land is also a theme reiterated in the Native Title Social Justice measures (ATSIC 1995: 140-1). Collectively, these recommendations espouse an import substitution model and embrace a potentially wide range of industry activities and occupations in areas such as council administration, housing, health, education, stores, airlines, media, roads, power and water supply, land restoration and management, recreation and horticulture (Coles 1993: 53). While skilling in such areas would go some way towards enhancing the status of CDEP scheme work, this still leaves a problem of exit options from the scheme, particularly in rural communities where only a limited number of mainstream employment options are available, even for those who may be adequately trained. Part of the problem here is structural and to do with the small scale and dispersed nature of rural settlement. The corollary is quite simply that most mainstream opportunities in the Northern Territory, and those projected for the future, remain urban-based.

Possibilities for expanding the range of indigenous employment opportunities in rural areas, either from within the CDEP scheme, or independent of it, also exist through export generation. Options for the latter have been reviewed by Altman and Taylor (1989) in the context of what Altman (1990: 48) has suggested is only a limited capacity to generate income independent of government support, while others, such as the Jawoyn Association, are more optimistic about potential outcomes (Green Ant Research Arts and Publishing 1994). Export generating activities, such as mining, pastoralism, tourism, fishing and the manufacture of arts and crafts, already abound and while a growing

number of case studies confirm the scope for commercial enterprise development they are far more circumspect on the subject of employment generating potential (Young 1988; Ellana et al. 1988; Altman 1988; Altman and Taylor 1989). Leaving aside the limitations due to shortage of skills, simple geographic variation in resource distribution affects this potential by offering possibilities for some groups but not for others. Further constraints are more culturally-derived and relate to the supply-side. With reference to tourism enterprises, Altman (1988: 306-12), for example, points to factors which may lessen the desire of some indigenous people to seek full-time work or engage in work of certain kinds, particularly those not linked in some way to community services.

An increasingly important factor in generating work opportunities and an economic stakehold for indigenous people has been the leverage acquired via the *Aboriginal Land Rights (Northern Territory) Act 1976* and more recently the *Native Title Act 1993* (Altman 1994). These have provided for exploration and mining agreements which have included commitments to employ and train local indigenous people in a range of occupations. However, the employment impact of such agreements has rarely matched expectations due to a variety of demand and supply-side factors (O'Faircheallaigh 1986: 3-6, 1988). Supply-side factors are generally controlled by the proximity of the mine to local labour pools and whether these populations have the capacity or inclination to participate in the jobs on offer. Obviously, mines that are technologically complex and capital intensive requiring a skilled workforce provide far less scope for substantial involvement of rural-based indigenous people given their characteristically low educational status and skill levels. Likewise, there may be pressing cultural and social obligations that prevail against participation in training.

On the demand-side, a feature of mining agreements is their variability with often very different provisions for, and commitments to, indigenous employment and training (Altman 1994). It has been argued, for example, that the strength of commitment to employment and training on the part of mining companies has substantially affected outcomes. As a case in point, a contrast may be drawn between the Ranger mine, where low levels of local participation have been linked with half-hearted efforts to implement employment and training strategies, and Nabarlek mine where substantial local involvement has been attributed to much stronger commitments and flexible work arrangements (Cousins and Nieuwenhuysen 1984: 97-8; O'Faircheallaigh 1986: 3-6, 1988). In the case of the more recent Mt Todd Agreement, early results appear encouraging with Jawoyn people accounting for 27 per cent of the mine workforce in June 1994 (Green Ant Research Arts and Publishing 1994: 34). Furthermore, the Jawoyn Association has developed an employment and training strategy aimed at engaging as many Jawoyn people as possible with the aim of ultimately taking over the running of all the Association's economic activities (Green

Ant Research Arts and Publishing 1994: 60). This strategy is consistent with the provisions for community-based case management announced in *Working Nation* and should be closely monitored against objectives of that policy as well as against those of the AEDP. It also provides a test case against earlier, far less optimistic, estimations of employment prospects for Jawoyn people (Altman and Smith 1990: 27-38).

While there is no doubt that the attachment of indigenous workers to the mainstream labour market remains marginal and that employment growth is increasingly dependent on special programs, it does not seem to follow that the emergence of a distinctly indigenous labour market necessarily limits the scope for employment across a range of industries and occupations, at least not to the extent suggested by official data. Furthermore, increased job segregation may be as much an artefact of data collection as a reality and greater effort is needed to clarify the nature of indigenous employment, particularly in CDEP schemes. At the same time, segmented labour markets become self-reinforcing over time, particularly in a spatial context (Hunter 1994), and the risk, in rural areas of the Northern Territory particularly, is that income inequalities become entrenched. The AEDP is concerned with more than just jobs; it is designed also to raise income levels and reduce dependence on government support. This is contingent more on the quality, rather than quantity, of work and given that average employment incomes of indigenous people in the Northern Territory, relative to those of non-indigenous people, fell further behind, from two-thirds of the level in 1986 to only half the level in 1991, the primary task of raising the status of indigenous employment remains to be addressed (Taylor 1994a: 18).

Notes

1. The CDEP scheme is a Commonwealth Government labour market program in which unemployed indigenous people of working age forego their entitlements to payments from the Department of Social Security but receive the equivalent from a local community organisation in return for work. For a full description of the scheme and the policy issues surrounding it, see Altman and Sanders (1991) and Sanders (1993).

2. In a statistical sense, segregation refers to the degree of difference in the pattern of proportional distribution between two otherwise similar sets of data. A relative measure of such difference is provided by a wide range of segregation indices and one commonly used in studies of labour force segregation, the Index of Dissimilarity (ID), is applied here. This is calculated by summing the absolute differences between the per cent of all indigenous people employed in different industries and dividing the answer by two. For example, using hypothetical data showing the percentage of indigenous and non-indigenous workers employed in three industries:

	Indigenous employed Per cent	Non-indigenous employed Per cent	Absolute difference
Industry A	65	20	45
Industry B	10	50	40
Industry C	20	30	10
Total	100	100	95

In this case, the index of dissimilarity would equal 95/2 = 47.5 per cent. In other words, almost half of indigenous workers (or non-indigenous workers) would have to change their industry of employment to eliminate the difference in the statistical distributions. The index thus ranges from zero (no segregation) to 100 (complete segregation). For further discussion of the index methodology see Jones (1992).

3. The ASIC structure includes 12 industry divisions which are comprised of 612 industry classes.

4. No statistical measure of significance is implied here, rather an indication of those employment areas which would unequivocally involve substantial redeployment of indigenous workers to satisfy the assumption of equal employment distribution.

5. Obviously, indigenous and non-indigenous representation in each industry class is unlikely to be identical and some difference between the proportions in each industry is to be expected. The question is, what degree of difference may be deemed significant. This is arguable. From the perspective of indigenous workers, such difference is considered here to indicate over-representation (ie. an excessively high employment concentration) in a given industry if the indigenous employment share is greater than the non-indigenous share and the variation between the two shares is above the average differential for that industry division. Under-representation is calculated in the same way but the indigenous employment share is lower.

6. The ASCO structure contains four levels. The broadest level comprises eight major occupational groups. These are sub-divided into 52 minor groups which, in turn, comprise 282 unit groups identified on the basis of skill specialisation. At the base of classification are 1,079 individual occupations.

7. Individual industries identified as predominantly government sector in character but with indigenous people classified as private sector employees include: legal services, federal government administration, state government administration, local government administration, defence, community services undefined, community health centres (medical), community health centres (paramedical), welfare and charitable homes not elsewhere classified (n.e.c.), welfare and charitable services n.e.c., community organisations n.e.c., employment services, police, parks and gardens, and the accommodation industry.

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